

## METHODS AND APPARATUS FOR EVENT-DRIVEN ROUTING

## ABSTRACT OF THE DISCLOSURE

A router routes data packets. The router includes input physical channels for incrementally receiving portions of the data packets, and output physical channels. The  
5 router further includes data buffers, coupled with the input and output physical channels, for storing the portions of the data packets. The router further includes control circuitry, coupled with the input and output physical channels and the data buffers, for generating virtual channel assignments that assign virtual channels to the data packets, and generating physical channel assignments that assign the output  
10 physical channels to the virtual channels. Each of the assignments is generated in response to queued arrival and credit events. The portions of the data packets are forwarded from the data buffers to the output physical channels according to the generate virtual and physical channel assignments.